Kamco

Scalebreaker Marine

descaling and chemical cleaning pumps

CIP pump sets built to handle the strongest descaling chemicals

Scalebreaker C20 Scalebreaker C40 FWF Scalebreaker C90 FWF

Applications include cleaning & descaling:

- *Plate and shell type heat exchangers.*
- *Seawater coolers, heating coils.*
- *Steam generators and water heaters.*
- *Boilers, calorifiers.*
- *Condensers, chillers, fan coil units.*
- *Intercoolers and aftercoolers.*

Scalebreaker C210 FWF

- *Integral pump and chemical holding tank for shipboard portability and safety.*
- *For use with acidic and alkaline cleaning chemicals.*
- *High performance to clean severely fouled equipment.*
- *Integral wheels on C40, C90, and C210 models.*
- *Flow reversal valve for faster and more effective descaling.*
- *Self priming. • Compact and portable.*
- *No seals to leak. • Maintenance free.*
- *Fresh water flush facility on C40, C90 and C210 models. ***

*** It is good practice to flush plant and equipment with fresh water after the chemical clean to remove all traces of cleaning chemical.*

The advantages of flow reversal when chemical cleaning

During descaling limescale dissolves with the evolution of gas. The resulting effervescence and foaming can create a barrier which impedes, and in some cases prevents descaling chemical from further reaction with the deposits. Reversing the direction of flow and return with the flow reverser allows the foam and gas to discharge through the tank, eliminating the barrier effect. Apart from allowing deposits to be attacked from both sides, penetrating and breaking up their structure and speeding the descaling process considerably, flow reversal often enables previously blocked tubes and heat exchangers to be successfully descaled.

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Scalebreaker Marine descaling pumps

Models available and technical data

Model	Tank capacity (litres)	(kW)	Voltage/ frequency options	Max. output (l/m)	Max. head (m)	Weight (kg)	Dimensions (cm)	Max. height (cm)	Flow & return hoses (m)	Hose end fittings (BSP)
Scalebreaker C20	20	0.45	230v, 50Hz 110v, 50/60Hz	<60	14	9.8	45 x 25	54	2 x 3	1/2"
Scalebreaker C40 *	39	0.8	230v, 50Hz 110v, 50Hz 115v, 60Hz 240v, 60Hz	<90	20	17	39 x 44	69	2 x 3 *	3/4"
Scalebreaker C90 *	57	1.1	230v, 50Hz 110v, 50Hz 115v, 60Hz 240v, 60Hz	<150	24	22.5	39 x 59	89	2 x 3 *	3/4"
Scalebreaker C210 *	125	1.4	230v, 50Hz 110v, 50Hz 240v, 60Hz	<170-190	24-29	28.5	53 x 68	89	2 x 3 *	1"

*** Scalebreaker C40, C90 & C210 models include a fresh water flush facility, and also have a 3m discharge hose and 3m water inlet hose.**

Typical applications

1. Scalebreaker C20 - Small cooling circuits; plate and shell type heat exchangers.

2. Scalebreaker C40 - medium size applications - boilers, water heaters, chillers and condensers. Small plate and shell type heat exchangers.

3. Scalebreaker C90 - smaller boilers, water heaters, chillers and condensers. Plate and shell type heat exchangers.

4. Scalebreaker C210 - boilers, calorifiers, chillers, and water heaters. Plate and shell type heat exchangers.

General information

All Scalebreaker units have self priming vertical axis centrifugal type pump assemblies.

Hoses and connections
All pumps are fitted with flow and return tubing, fitted with either threaded female couplings or quick release Camlcok type hose connectors.

Operational and temperature capabilities
All models have run-dry capability, but liquid temperature should not exceed 70°C.

Motors
Electric motors are totally enclosed fan-cooled, with IP54 or IP55 protection, continuously rated, with plastic membrane covered switch and warning light.

Portability and handling
All models have an integral handle moulded into the tank, with a deep hand grip recess on the front for ease of lifting. Pumps are designed for on-board use, with low weight and good stability.

Flow reversal device
All models have a flow reversal valve. Regular flow reversal reduces cleaning time, and is extremely effective in flushing out loosened deposits.

Chemical handling capabilities
Scalebreaker pumps are acid-proof, and may be used with all acids in common descaling use - hydrochloric, phosphoric, sulphamic, citric, formic, acetic, etc. They may also be used with alkalis, and chlorine solutions as used for sterilisation purposes. For compatibility with other chemicals, please check with Kamco.

Materials of Construction
Motor support flange and body, flow reverser, volute, and impeller: fibre reinforced polypropylene.

Impeller housing cover: polyphenylene sulfide engineering plastic.

Drive shaft: steel, sleeved in PP.

Tank: HD polyethylene, enabling liquid level to be monitored visually.

Hoses:
Flow and return hoses (and discharge hose if applicable): reinforced transparent PVC.
Water inlet hose (if applicable): reinforced yellow PVC.

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